Check Point NG FP3 step-by-step Install guide on NOKIA IPSO

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INTRO

This document is to be used as a reference on how to install a NOKIA IP350 with Check Point NG FP3. In this document I have provided a step-by-step reference guide on loading a NOKIA IP350 with IPSO version 3.7.1Build010, and Check Point version NG FP3. Voyager and command line were both used in this guide; this is just one way that a NOKIA device can be configured as a Check Point Firewall. Not all of the patches and hot fixes for these versions are shown in this document. There was only one patch applied to this device, this was simply to show how to apply it to the NOKIA. The two vulnerabilities that have to be addressed when using this version of Check Point and IPSO are:

1. Hot fix Accumulator 325
2. Open SSL vulnerability

After using this document as a reference guide (not a configuration guide), you should be able to put the device in line and connect it to a management server with out any issues. This document guides you from entering in the hostname of the firewall, and ends with applying the default filter and running CPCONFIG. Good luck with your install and thanks for using this guide as a reference on how to configure a Check Point firewall.

After the start up script runs you will be prompt to enter a hostname, if you hit enter it will get rid of the text so that you can type the hostname that you choose. Listed below is an actual screen shot taken from Secure CRT of how an install is performed. I used red text in the areas where you need to type in commands to configure this Firewall.

Please choose the host name for this system. This name will be used
in messages and usually corresponds with one of the network hostnames
for the system. Note that only letters, numbers, dashes, and dots (.)
are permitted in a hostname.

Hostname? **fw-test**
Hostname set to "fw-test", OK? [y] ? **y**

Please enter password for user admin: **password**
Please re-enter password for confirmation: **password**

You can configure your system in two ways:

1) configure an interface and use our Web-based Voyager via a remote
browser
2) VT100-based Lynx browser

Please enter a choice [1-2, q]: **1**

Select an interface from the following for configuration:

1) eth1
2) eth2
3) eth3
4) eth4
5) quit this menu

Enter choice [1-5]: **1**

Enter the IP address to be used for eth1: **10.0.0.1**

Enter the masklength: **24**

Do you wish to set the default route [y] ? **y**

Enter the default router to use with eth1: **10.0.0.254**

This interface is configured as 10 mbs by default.
Do you wish to configure this interface for 100 mbs [n] ? **y**

This interface is configured as half duplex by default.
Do you wish to configure this interface as full duplex [n] ? **y**

You have entered the following parameters for the eth1 interface:

```
        IP address: 10.0.0.1
        masklength: 24
     Default route: 10.0.0.254
             Speed: 100M
            Duplex: full
```

Is this information correct [y] ? **y**

Do you want to configure Vlan for this interface[n] ? **n**

You may now configure your interfaces with the Web-based Voyager by
typing in the IP address "131.87.68.50" at a remote browser.

Generating config files for fw-test: ipsrd hosts password group resolver snmp inetd ttys tz ntp ssmtp skey arp ndp
aggrclass acl ddr
ef syslog autosupport httpd lynx modem cron archive ipsec fmd AAA cluster xmode ssh iptune done.

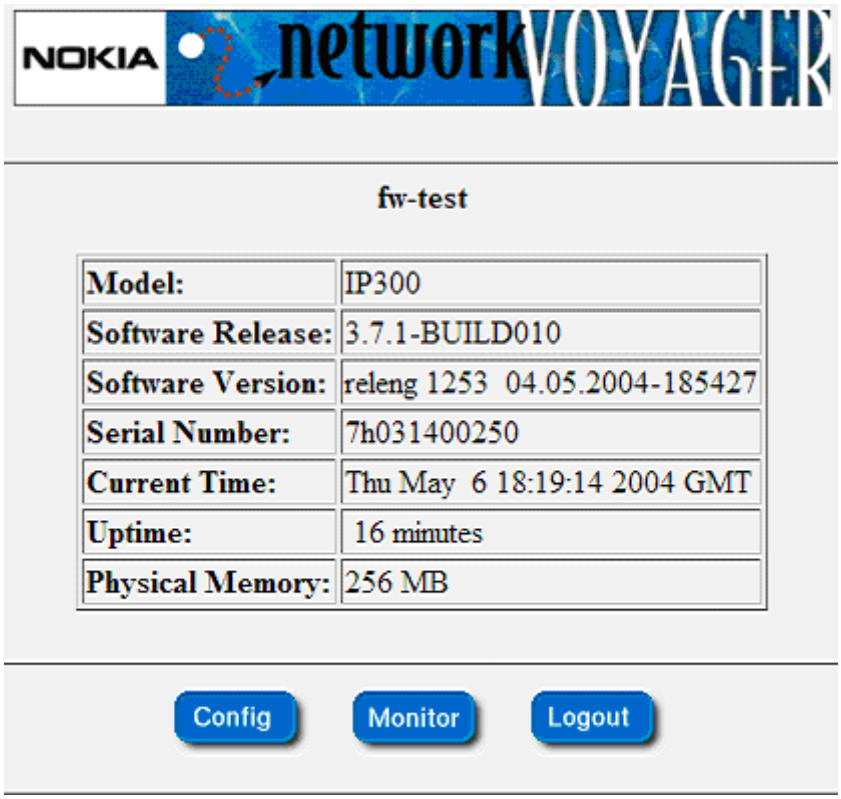
ifmnetlog:eth4 .. enabling 10baseT/UTP port in half duplex mode
netlog:eth2 .. enabling 10baseT/UTP port in half duplex mode
netlog:eth3 .. enabling 10baseT/UTP port in half duplex mode
netlog:eth1 .. enabling 100baseTX/UTP port in full duplex mode
done.
Apr 28 16:08:20 fw-test [LOG_INFO] kernel: netlog:eth4 .. enabling 10baseT/UTP port in half duplex mode
Apr 28 16:08:20 fw-test [LOG_INFO] kernel: netlog:eth2 .. enabling 10baseT/UTP port in half duplex mode
Apr 28 16:08:20 fw-test [LOG_INFO] kernel: netlog:eth3 .. enabling 10baseT/UTP port in half duplex mode
Apr 28 16:08:20 fw-test [LOG_INFO] kernel: netlog:eth1 .. enabling 100baseTX/UTP port in full duplex mode
Wed Apr 28 16:08:23 GMT 2004

IPSO (fw-test) (ttyd0)

login: **admin**
Password: **password**
Last login: Wed Apr 28 15:58:11 on ttyd0
Apr 28 16:09:09 fw-test [LOG_INFO] login: DIALUP ttyd0, admin
Apr 28 16:09:09 fw-test [LOG_NOTICE] login: ROOT LOGIN (admin) ON ttyd0
Apr 28 16:09:09 fw-test [LOG_NOTICE] login: ROOT LOGIN (admin) ON ttyd0
Apr 28 16:09:09 fw-test [LOG_INFO] login: login on ttyd0 as admin
IPSO 3.7-BUILD027 #1215: 09.23.2003 052500
Terminal type? [vt100]

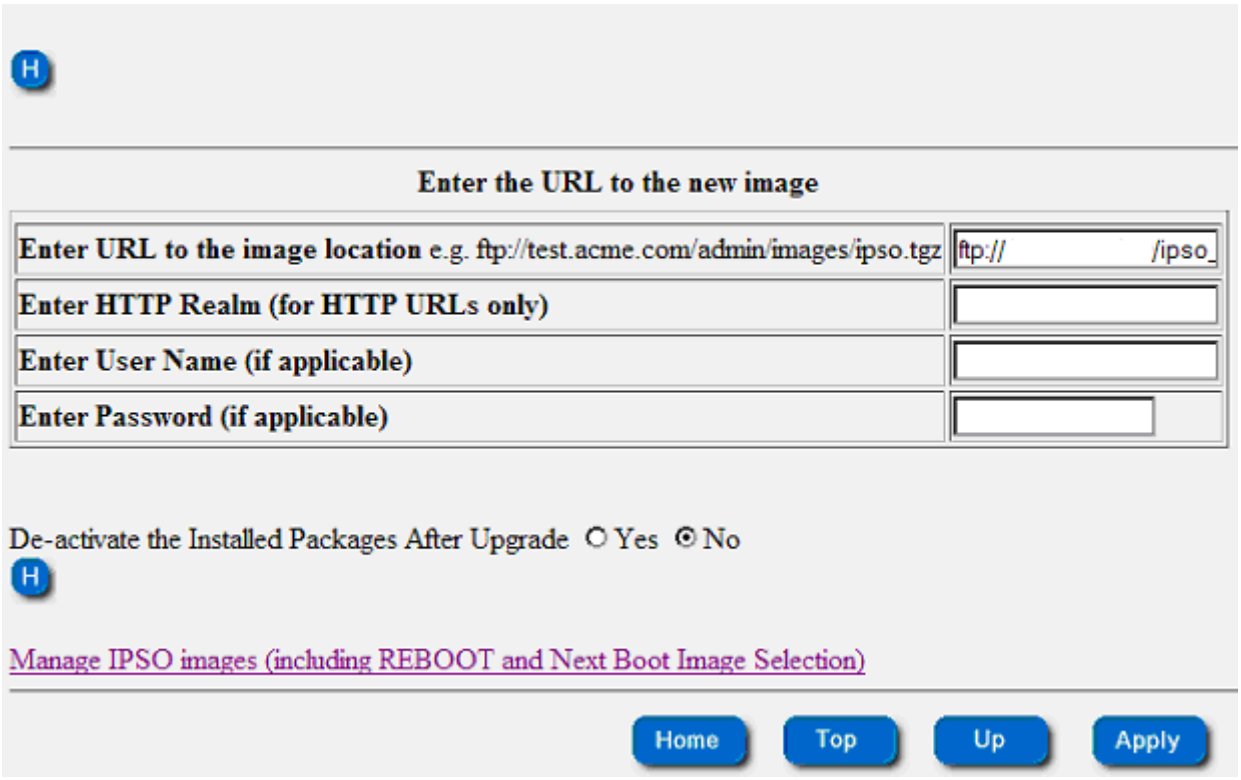
fw-test[admin]# **cd /var/tmp**
fw-test[admin]# **ls -ls**
total 1
1 -rw-r--r-- 1 root wheel 111 Apr 28 15:54 dhcpv4c_eth1c0.conf
0 -rw-r--r-- 1 root wheel   0 Apr 28 16:08 ipsopmddebug.txt
0 -rw-r--r-- 1 root wheel   0 Apr 28 15:57 ipsopmddebug.txt1
0 lrwxrwxrwt 1 root wheel   40 Apr 28 16:08 present -> IPSO-3.7-BUILD027-09.23.2003-052500-1215
fw-test[admin]#

By typing cd /var/tmp and then typing ls -ls you are changing the directory /var/tmp and listing what is in that directory. This allows you to see what IPSO version you are currently running on your NOKIA device. Since the IPSO version that is shown is not the current version or the version that we want to use, we are going to change it to the correct version by installing a new IPSO image from an FTP server using Voyager. Voyager is web based; you are able to configure almost everything via Voyager. To access the Voyager web page, type in **http://10.0.0.1** and then enter the user name and password. Any interface that is configured on this NOKIA can be used to get access to Voyager.
NOTE: Leave the SSH connection running.



The first screen you will see will look like the one shown above. Click on the **Config** button to get started.

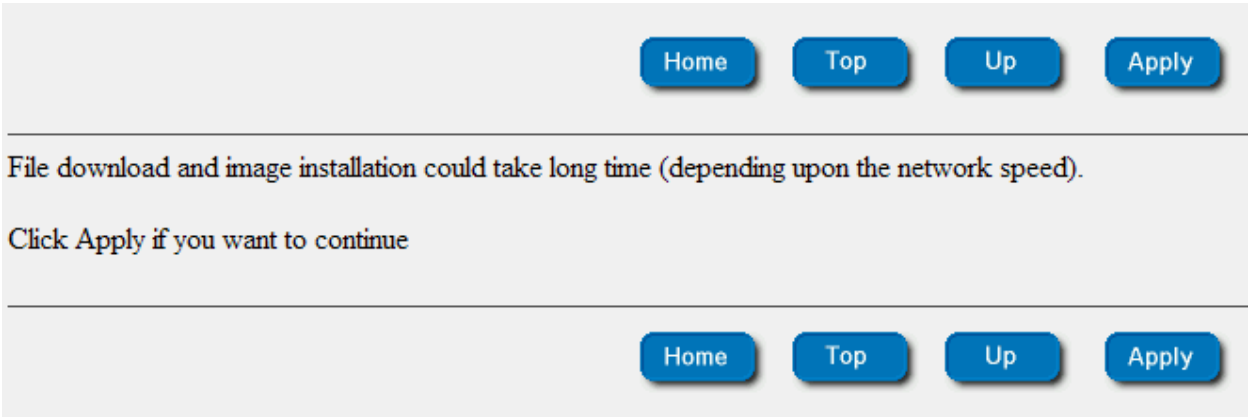
Under the section System Configuration click on **Install New IPSO Image (Upgrade)**.


Enter the URL to the new image
Enter URL to the image location e.g. ftp://test.acme.com/admin/images/ipso.tgz
ftp://
/ipso_
Enter HTTP Realm (for HTTP URLs only)
Enter User Name (if applicable)
Enter Password (if applicable)
De-activate the Installed Packages After Upgrade Yes No
Manage IPSO images (including REBOOT and Next Boot Image Selection)
Home
Top
Up
Apply

The screen that you are on should look like the one shown above. This is where you will need to type in the IP Address of your FTP Server. Since you will have a cross over cable hooked to your PC and the other end hooked to the port on the NOKIA that reads ETH-1, you will use the IP Address of your PC.
NOTE: make sure that you have an FTP Server loaded on your PC. EXAMPLE: 3COM Server.

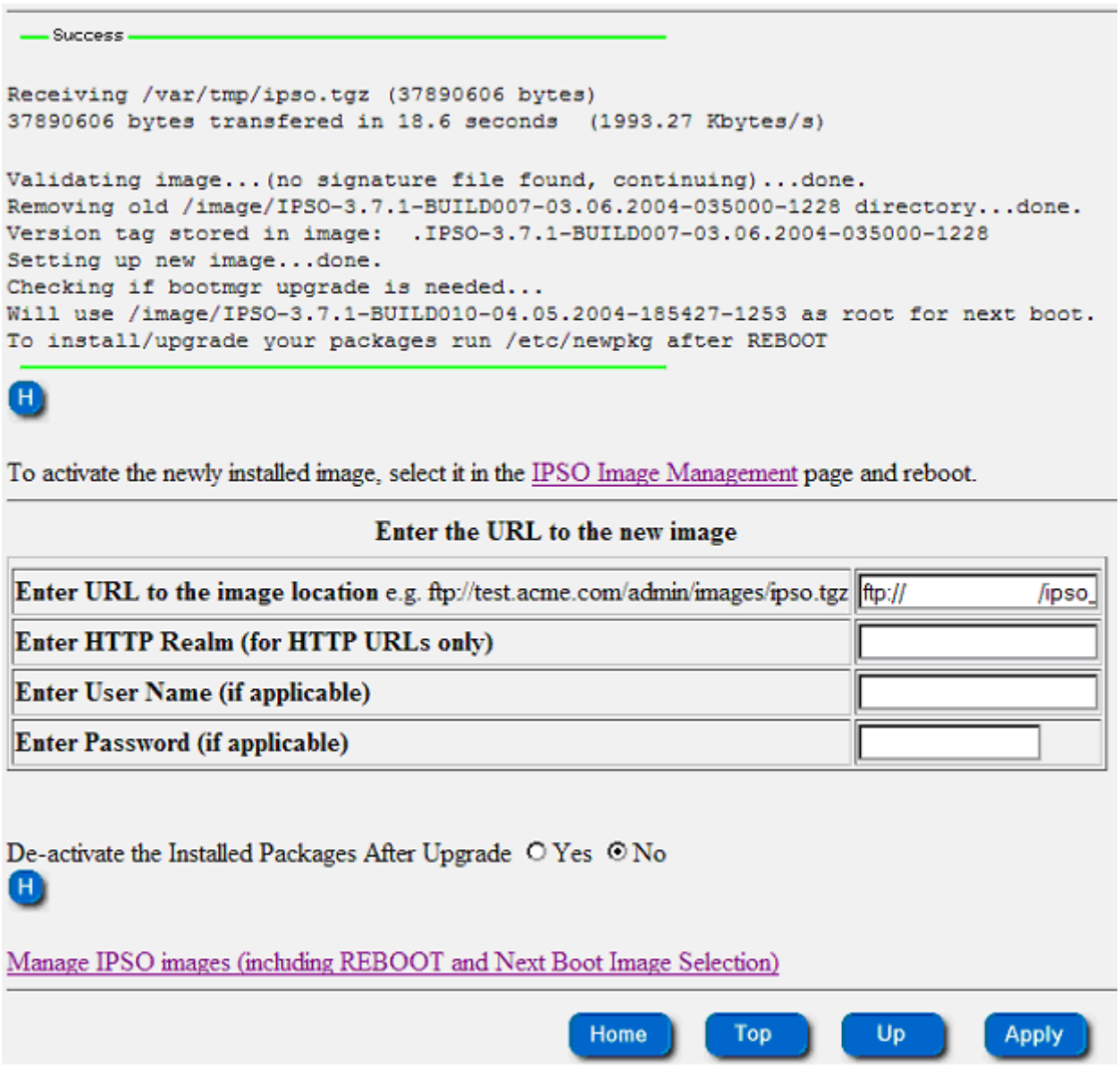
Make sure that your FTP Server is configured for Anonymous, that way you don't have to type in a user name and password. Type **"ftp://10.0.0.2/ipso_3_7_1_Build007.tgz"** I am using IPSO 3.7.1 build 007 for an example, you use whatever IPSO version that is current or that you want to use.

Now click on **Apply**.

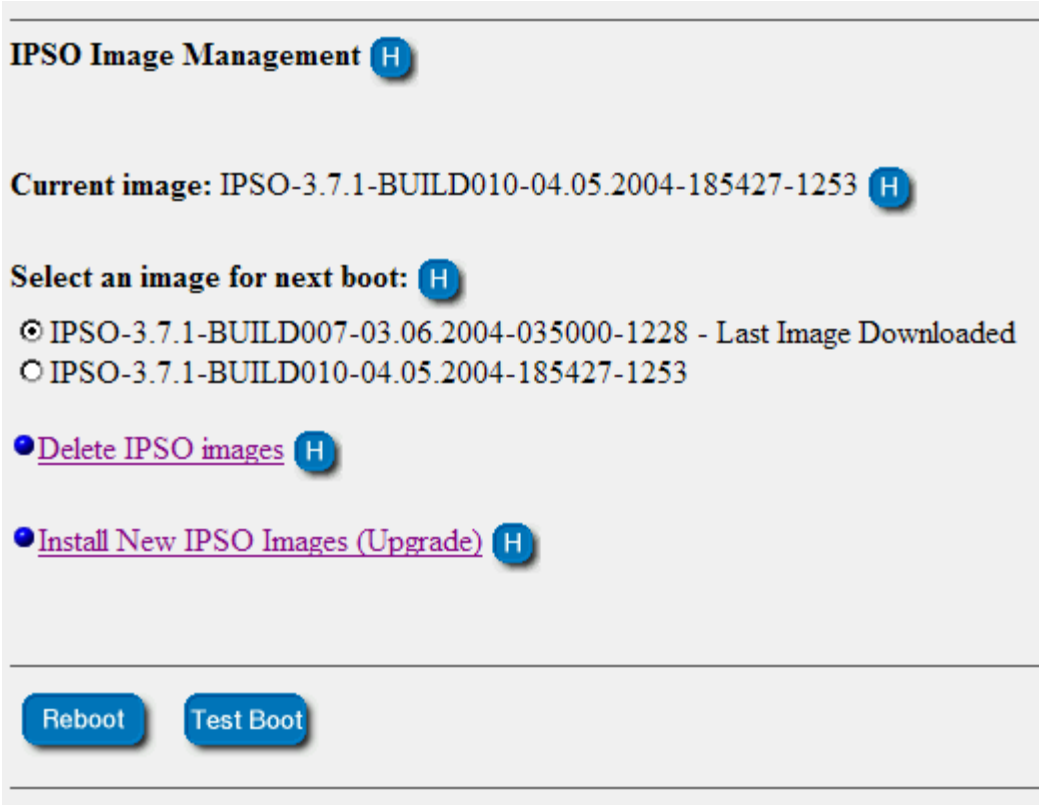


Click on the **Apply** button one more time and the install should start running. This load will take a few minutes, so don't click on anything else just let it run. You can also look on your FTP server to see the status of your FTP session.

If you click on the link highlighted in Blue you should see the status of your install. When the install is finished the screen will look like the one shown below.

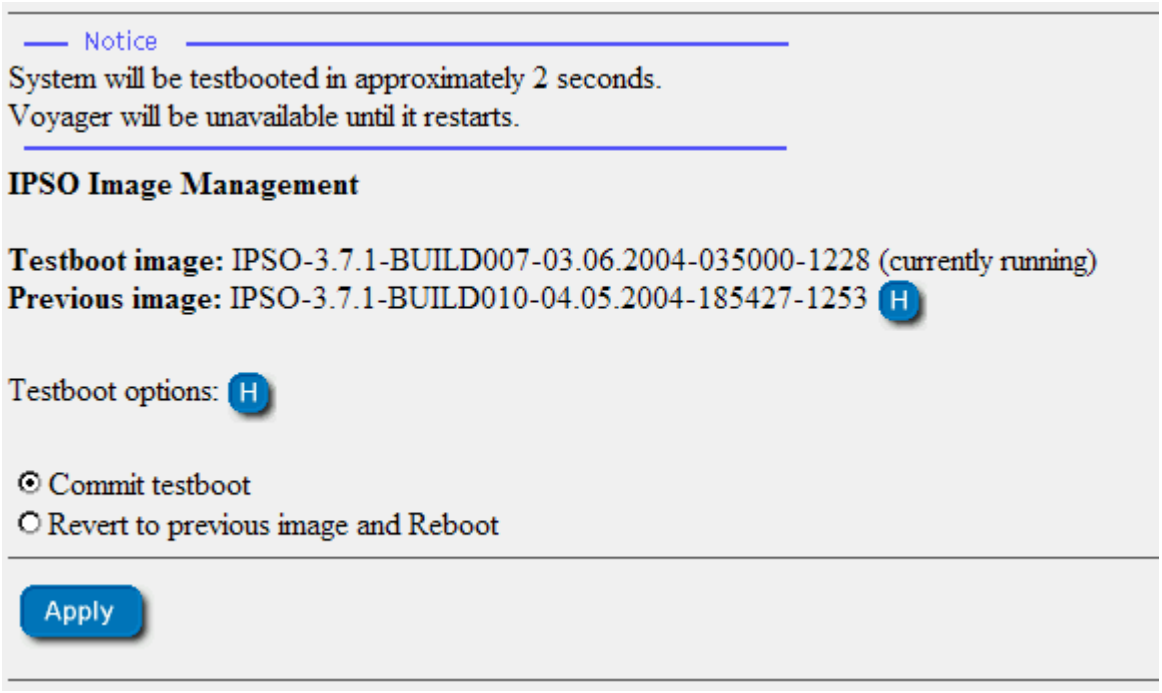

Success
Receiving /var/tmp/ipso.tgz (37890606 bytes)
37890606 bytes transfered in 18.6 seconds (1993.27 Kbytes/s)
Validating image...(no signature file found, continuing)...done.
Removing old /image/IPSO-3.7.1-BUILD007-03.06.2004-035000-1228 directory...done.
Version tag stored in image: .IPSO-3.7.1-BUILD007-03.06.2004-035000-1228
Setting up new image...done.
Checking if bootmgr upgrade is needed...
Will use /image/IPSO-3.7.1-BUILD010-04.05.2004-185427-1253 as root for next boot.
To install/upgrade your packages run /etc/newpkg after REBOOT
H
To activate the newly installed image, select it in the IPSO Image Management page and reboot.
Enter the URL to the new image
Enter URL to the image location e.g. ftp://test.acme.com/admin/images/ipso.tgz
ftp:// /ipso_
Enter HTTP Realm (for HTTP URLs only)
Enter User Name (if applicable)
Enter Password (if applicable)
De-activate the Installed Packages After Upgrade Yes No
H
Manage IPSO images (including REBOOT and Next Boot Image Selection)
Home
Top
Up
Apply

The install is now complete and you need to reboot your NOKIA device. Before you reboot click on **Manage IPSO images (including REBOOT and Next Boot Image Selection)** located at the bottom of the page.

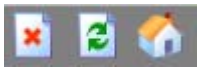


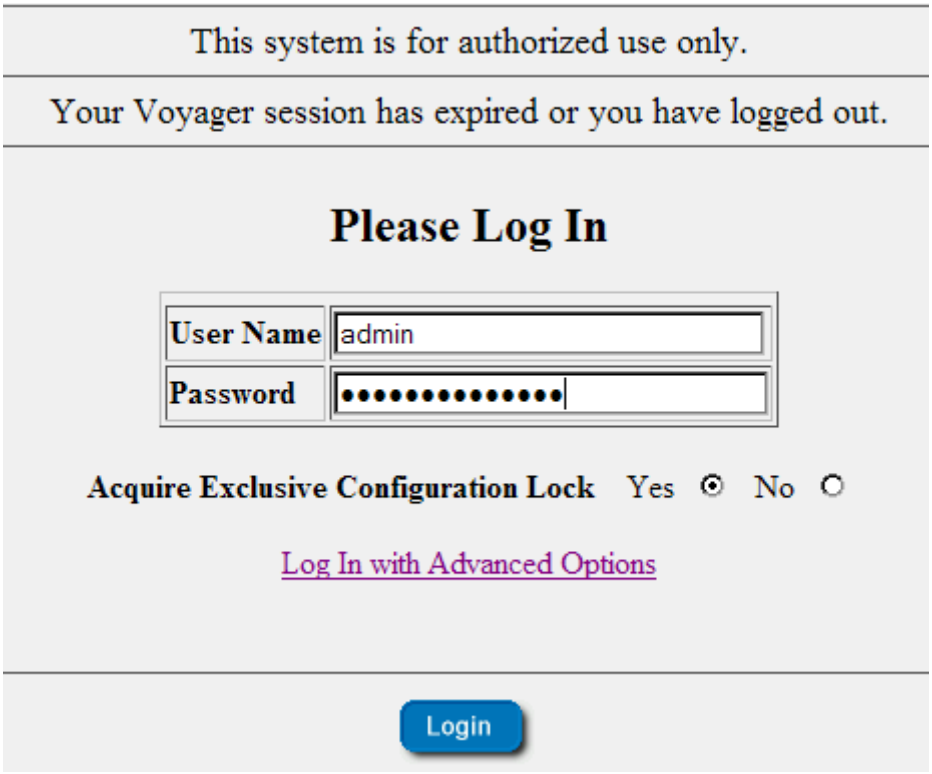
Select the radio button that reads **Last Image Downloaded.** This is the IPSO version that you just loaded. At the bottom of the page, click on **Test Boot**.

NOTE: Test boot is used incase something happens when you're rebooting, this way you can revert back to the old version and no harm was done. This is a precautionary measure.

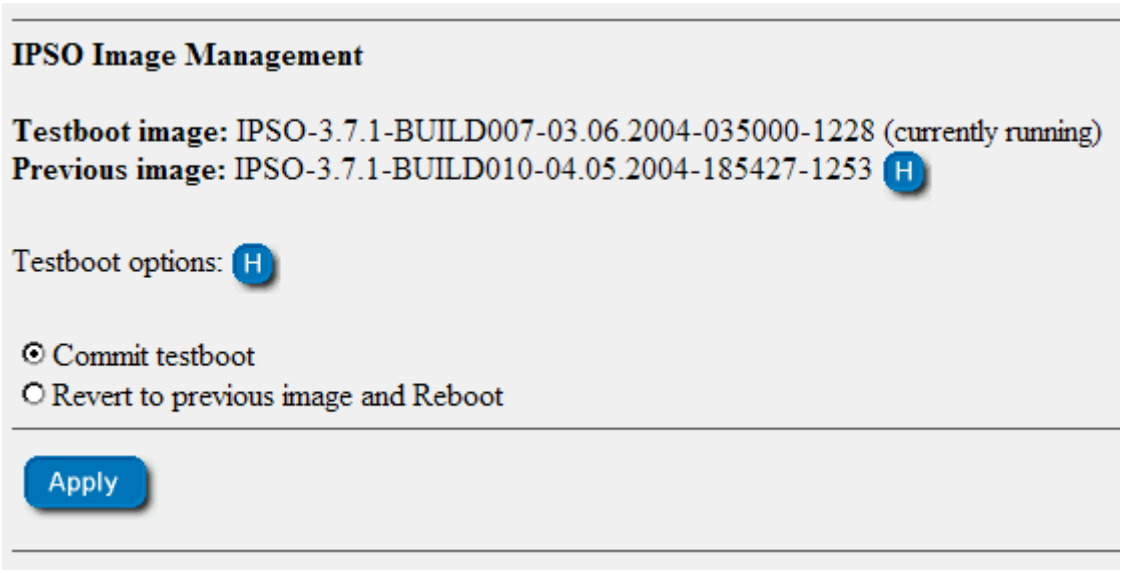


After selecting Test Boot you will see the page shown above. Wait about 5 minutes and then hit the **Refresh button** at the top of the page.





You will now have to log back in so that you can commit to the test boot.



Click on **Apply** and then click on **Logout**. You can now switch back to your SSH connection. You will probably need to log back in with a user name and password because the box has been rebooted. Shown below are the steps to install **Check Point NG FP3** on this NOKIA device. Follow the steps by typing in the commands shown in **red** listed below.

During this process you will be asked if you want to download certain images, hot fixes, or packages. Only choose the one that says **"Do you want to download CP_FP3_IPSO.tgz"?** For all of the other prompts type "**n**" and wait until they have all been addressed.
NOTE: If you are using AI or some other version of Check Point then you will choose the version you want.

IPSO (fw-test) (ttyd0)

login: **admin**
Password: **xxxxxxxxxxx**
Last login: Thu May 6 19:28:42 on ttyd0
May 6 20:03:18 fw-test [LOG_INFO] login: DIALUP ttyd0, admin
May 6 20:03:18 fw-test [LOG_NOTICE] login: ROOT LOGIN (admin) ON ttyd0
May 6 20:03:18 fw-test [LOG_NOTICE] login: ROOT LOGIN (admin) ON ttyd0
May 6 20:03:18 fw-test [LOG_INFO] login: login on ttyd0 as admin
IPSO 3.7.1-BUILD010 #1253: 04.05.2004 185427
Terminal type? [vt100]
fw-test[admin]#
fw-test[admin]#
fw-test[admin]#
fw-test[admin]# **newpkg -i**

Load new package from:
1. Install from CD-ROM.
2. Install from anonymous FTP server.
3. Install from FTP server with user and password.
4. Install from local filesystem.
5. Exit new package installation.

Choose an installation method (1-5): **2**
Enter IP address of FTP server (0.0.0.0): **10.0.0.2**

Enter pathname to the packages [or 'exit' to exit]: **/**

Loading Package List

Do you want to download cpinfo_ipso_550000007.tgz ? ['yes (default)' or 'no' or 'exit']: **n**
Skipping package cpinfo_ipso_550000007.tgz ...

Do you want to download cpshared_NG_FP3_53267_2_Nokia.tgz ? ['yes (default)' or 'no' or 'exit']: **n**
Skipping package cpshared_NG_FP3_53267_2_Nokia.tgz ...

Do you want to download CP_FP3_IPSO.tgz ? ['yes (default)' or 'no' or 'exit']: **y**
Processing package CP_FP3_IPSO.tgz ...
Package Description: Check Point NG Feature Pack 3 wrapper package

Would you like to :

1. Install this as a new package
2. Upgrade from an old package
3. Skip this package
4. Exit new package installation

Choose (1-4): **1**

Installing CP_FP3_IPSO.tgz
CP_FP3_IPSO does not exist previously. Proceeding with Installation.

   Running Pre-install script
   Running Post-install script
May 6 21:31:26 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:31:26 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:31:26 fw-test [LOG_CRIT] PKG_INSTALL: INSTALL STARTED at Thu May 6 21:31:26 GMT 2004

May 6 21:31:26 fw-test [LOG_CRIT] PKG_INSTALL: INSTALL STARTED at Thu May 6 21:31:26 GMT 2004
May 6 21:31:29 fw-test [LOG_CRIT] PKG_INSTALL: Trying to install CPshrd-50/cpshared_ipso.tgz
May 6 21:31:29 fw-test [LOG_CRIT] PKG_INSTALL: Trying to install CPshrd-50/cpshared_ipso.tgz
May 6 21:31:53 fw-test [LOG_CRIT] PKG_INSTALL: Trying to install CPfw1-50/fw1_ipso.tgz
May 6 21:31:53 fw-test [LOG_CRIT] PKG_INSTALL: Trying to install CPfw1-50/fw1_ipso.tgz
May 6 21:32:42 fw-test [LOG_CRIT] PKG_INSTALL: Running /tmp/pkg/CP_FP3_IPSO/CPfw1-50/POST_INSTALL
May 6 21:32:42 fw-test [LOG_CRIT] PKG_INSTALL: Running /tmp/pkg/CP_FP3_IPSO/CPfw1-50/POST_INSTALL
May 6 21:32:42 fw-test [LOG_CRIT] PKG_INSTALL: Running /tmp/pkg/CP_FP3_IPSO/CPdtps-50/PRE_INSTALL
May 6 21:32:42 fw-test [LOG_CRIT] PKG_INSTALL: Running /tmp/pkg/CP_FP3_IPSO/CPdtps-50/PRE_INSTALL
May 6 21:32:43 fw-test [LOG_CRIT] PKG_INSTALL: Running /tmp/pkg/CP_FP3_IPSO/CPuag-50/PRE_INSTALL
May 6 21:32:43 fw-test [LOG_CRIT] PKG_INSTALL: Running /tmp/pkg/CP_FP3_IPSO/CPuag-50/PRE_INSTALL
May 6 21:32:43 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:32:43 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:32:43 fw-test [LOG_CRIT] PKG_INSTALL: /etc/newpkg -S -m LOCAL -i -n CPfwbc-41/fw-1_ipso.tgz
May 6 21:32:43 fw-test [LOG_CRIT] PKG_INSTALL: /etc/newpkg -S -m LOCAL -i -n CPfwbc-41/fw-1_ipso.tgz
May 6 21:32:43 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:32:43 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:32:56 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:32:56 fw-test [LOG_CRIT] PKG_INSTALL: /etc/newpkg -S -m LOCAL -i -n CPdtps-50/polsrv_ipso.tgz
May 6 21:32:56 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:32:56 fw-test [LOG_CRIT] PKG_INSTALL: /etc/newpkg -S -m LOCAL -i -n CPdtps-50/polsrv_ipso.tgz
May 6 21:32:57 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:32:57 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:01 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:01 fw-test [LOG_CRIT] PKG_INSTALL: /etc/newpkg -S -m LOCAL -i -n CPfg1-50/fg1_ipso.tgz
May 6 21:33:01 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:01 fw-test [LOG_CRIT] PKG_INSTALL: /etc/newpkg -S -m LOCAL -i -n CPfg1-50/fg1_ipso.tgz
May 6 21:33:01 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:01 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:04 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:04 fw-test [LOG_CRIT] PKG_INSTALL: /etc/newpkg -S -m LOCAL -i -n CPrtm-50/rtm_ipso.tgz
May 6 21:33:04 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:04 fw-test [LOG_CRIT] PKG_INSTALL: /etc/newpkg -S -m LOCAL -i -n CPrtm-50/rtm_ipso.tgz
May 6 21:33:04 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:04 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:08 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:08 fw-test [LOG_CRIT] PKG_INSTALL: /etc/newpkg -S -m LOCAL -i -n CPuag-50/uag_ipso.tgz
May 6 21:33:08 fw-test [LOG_CRIT] PKG_INSTALL:
****

May 6 21:33:08 fw-test [LOG_CRIT] PKG_INSTALL: /etc/newpkg -S -m LOCAL -i -n CPuag-50/uag_ipso.tgz
May 6 21:33:08 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:08 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:16 fw-test [LOG_CRIT] PKG_INSTALL: Running /tmp/pkg/CP_FP3_IPSO/CPdtps-50/POST_INSTALL
May 6 21:33:16 fw-test [LOG_CRIT] PKG_INSTALL: Running /tmp/pkg/CP_FP3_IPSO/CPdtps-50/POST_INSTALL
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: **********INSTALL/UPGRADE PROCESS COMPLETED**********
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: **********INSTALL/UPGRADE PROCESS COMPLETED**********
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: Please do the following if the INSTALL/UPGRADE is Successful:
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: Please do the following if the INSTALL/UPGRADE is Successful:
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: 1) Logout and re-login.
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: 1) Logout and re-login.
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: 2) Run 'cpconfig' and configure the firewall.
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: 2) Run 'cpconfig' and configure the firewall.
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: 3) Install the new License if required.
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: 3) Install the new License if required.
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: 4) Reboot the box.
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: 4) Reboot the box.
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: **********INSTALL/UPGRADE PROCESS COMPLETED**********
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL: **********INSTALL/UPGRADE PROCESS COMPLETED**********
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL:
****
May 6 21:33:21 fw-test [LOG_CRIT] PKG_INSTALL:
****
Done installing CP_FP3_IPSO

Do you want to download fw1_NG_FP3_53225_5_Nokia.tgz ? ['yes (default)' or 'no' or 'exit']: **n**
Skipping package fw1_NG_FP3_53225_5_Nokia.tgz ...

Do you want to download IPSO-SHF_HFA_322.tgz ? ['yes (default)' or 'no' or 'exit']: **n**
Skipping package IPSO-SHF_HFA_322.tgz ...

Do you want to download ipso1.tgz ? ['yes (default)' or 'no' or 'exit']: **n**
Skipping package ipso1.tgz ...

Do you want to download ipso2.tgz ? ['yes (default)' or 'no' or 'exit']: **n**
Skipping package ipso2.tgz ...

Do you want to download ipso3.tgz ? ['yes (default)' or 'no' or 'exit']: **n**
Skipping package ipso3.tgz ...

Do you want to download ipso4.tgz ? ['yes (default)' or 'no' or 'exit']: **n**
Skipping package ipso4.tgz ...

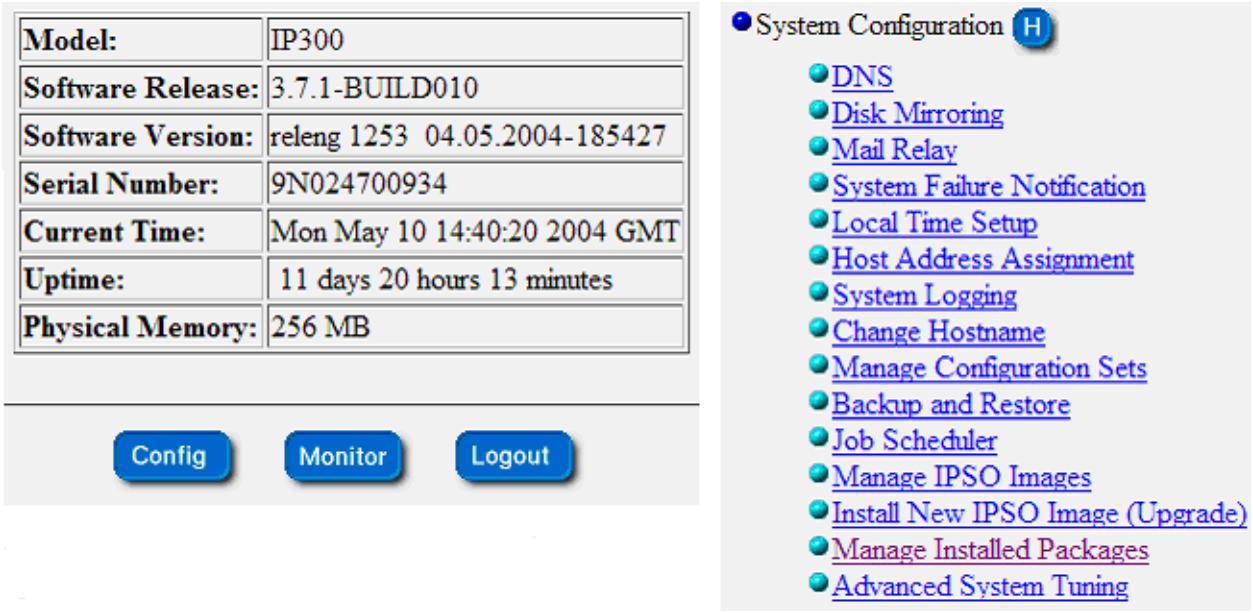
Do you want to download ipso_3_7_1_Build007.tgz ? ['yes (default)' or 'no' or 'exit']: **n**
Skipping package ipso_3_7_1_Build007.tgz ...

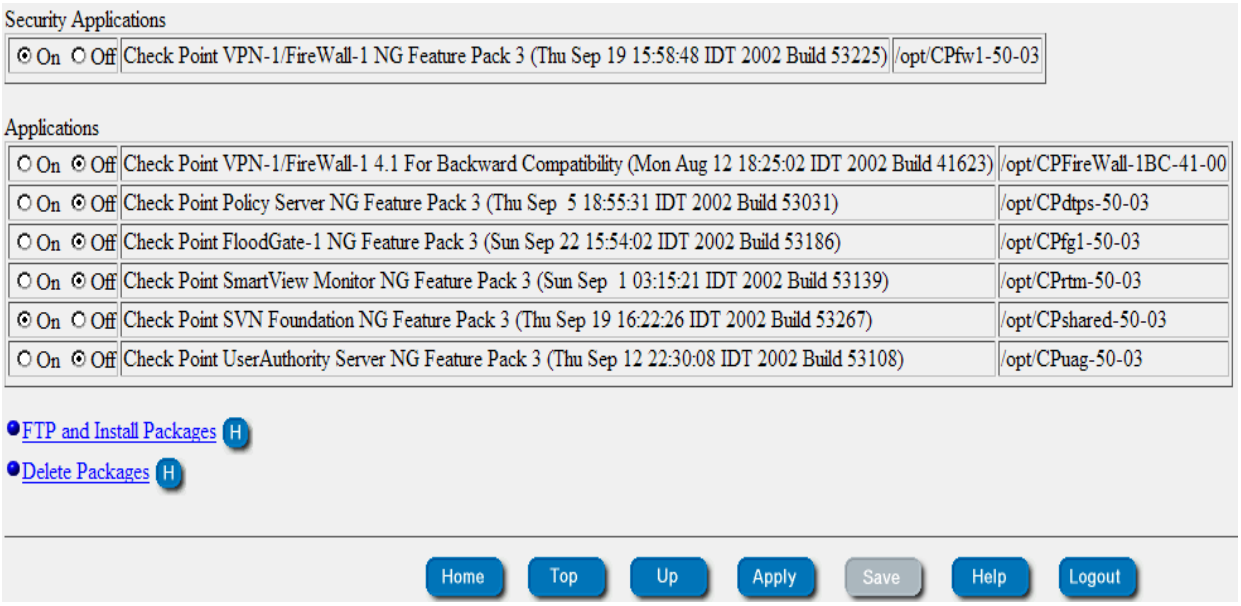
Do you want to download ipso_3_7_1_Build010.tgz ? ['yes (default)' or 'no' or 'exit']: **n**
Skipping package ipso_3_7_1_Build010.tgz ...

Do you want to download RSNS_NokiaRelease_7_0_2003_62.tgz ? ['yes (default)' or 'no' or 'exit']: **n**
Skipping package RSNS_NokiaRelease_7_0_2003_62.tgz ...

End of new package installation
cleaning up ..done
Use Voyager to activate packages
fw-test[admin]#

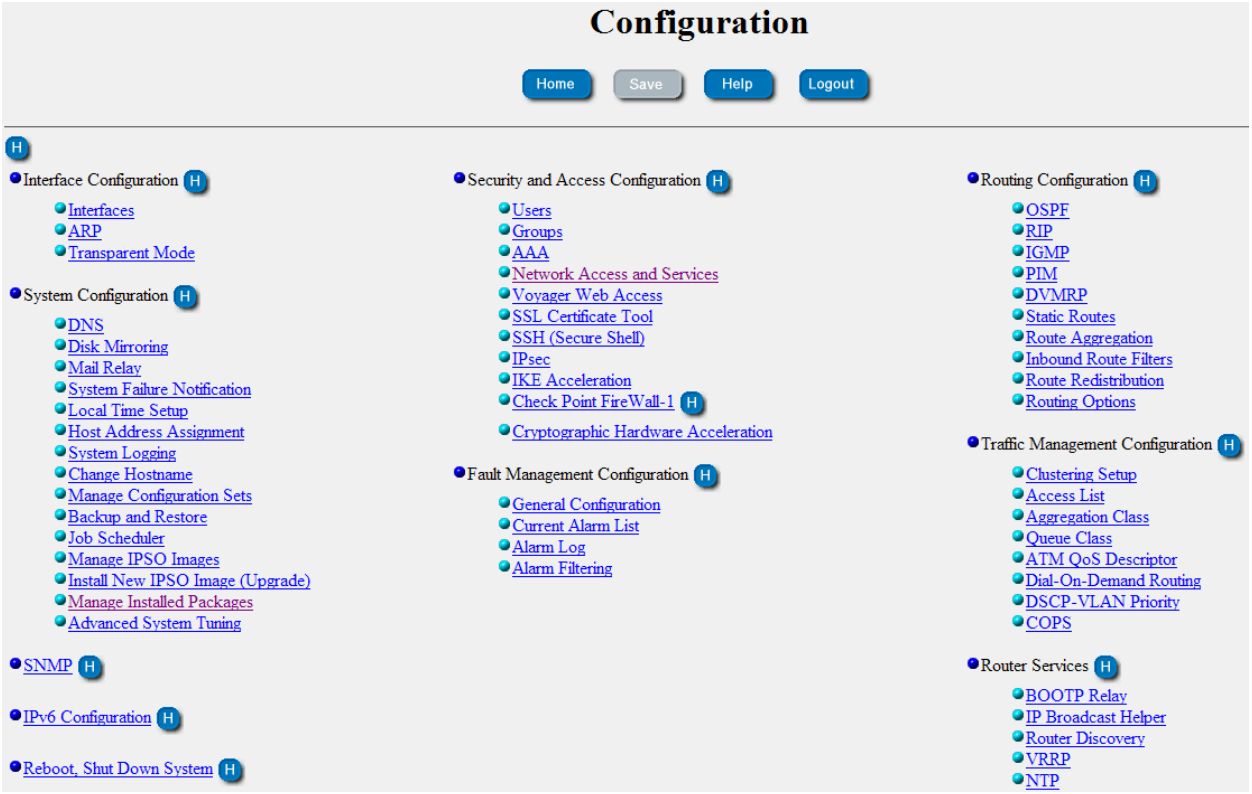
You can now log back into Voyager by typing **http://10.0.0.1,** if you click on **Config** then click on **Manage Installed Packages** under System Configuration, your screen should look like the one shown below.




Security Applications
On Off Check Point VPN-1/FireWall-1 NG Feature Pack 3 (Thu Sep 19 15:58:48 IDT 2002 Build 53225) /opt/CPfw1-50-03
Applications
On Off Check Point VPN-1/FireWall-1 4.1 For Backward Compatibility (Mon Aug 12 18:25:02 IDT 2002 Build 41623) /opt/CPFireWall-1BC-41-00
On Off Check Point Policy Server NG Feature Pack 3 (Thu Sep 5 18:55:31 IDT 2002 Build 53031) /opt/CPdtps-50-03
On Off Check Point FloodGate-1 NG Feature Pack 3 (Sun Sep 22 15:54:02 IDT 2002 Build 53186) /opt/CPfg1-50-03
On Off Check Point SmartView Monitor NG Feature Pack 3 (Sun Sep 1 03:15:21 IDT 2002 Build 53139) /opt/CPrtm-50-03
On Off Check Point SVN Foundation NG Feature Pack 3 (Thu Sep 19 16:22:26 IDT 2002 Build 53267) /opt/CPshared-50-03
On Off Check Point UserAuthority Server NG Feature Pack 3 (Thu Sep 12 22:30:08 IDT 2002 Build 53108) /opt/CPuag-50-03
FTP and Install Packages
Delete Packages
Home
Top
Up
Apply
Save
Help
Logout

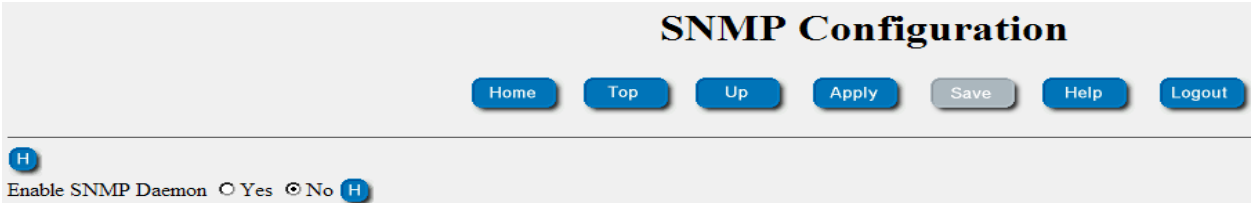
The 2 applications (packages) turned on by default are the only ones that need to be turned on. Nothing needs to be done, you're just checking to make sure they're turned on. If you click on **UP** it will take you back to the Configuration screen.

NOTE: If you are going to be using VPNs you will also need to click on the first radio button underneath Applications.



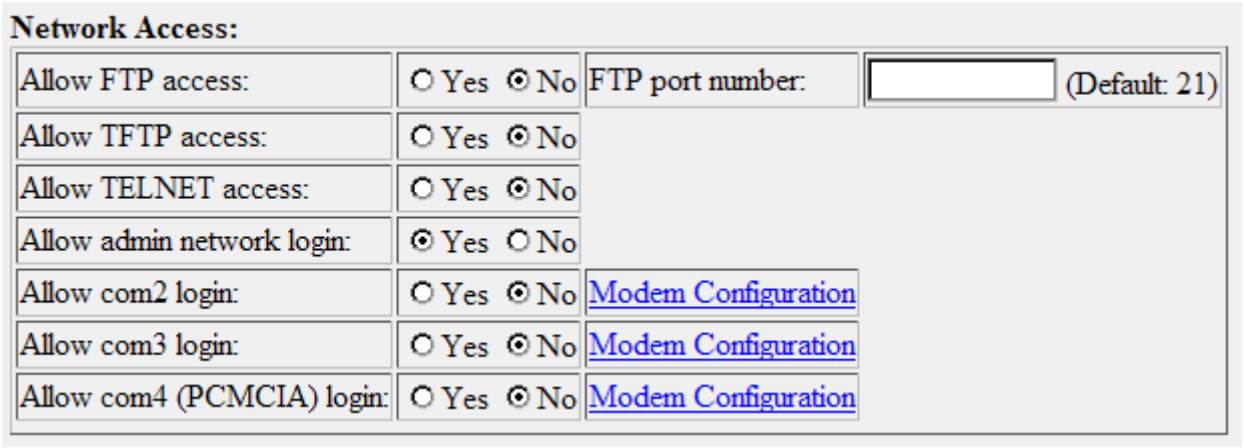
Click on **SNMP** and make sure that it is turned off. If you click on **UP** it will take you back to the Configuration screen.

NOTE: Your configuration may be different from the guide if you need SNMP enabled. This is up to you if you want to use it.

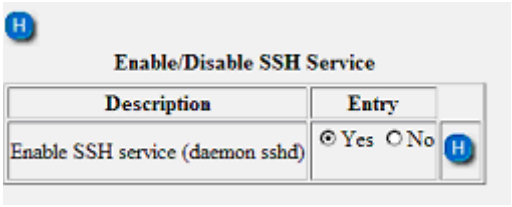


Under Security and Access Configuration click on **Network Access and Services**, make sure that **Telnet** and **FTP** are turned off. If you click on **UP** it will take you back to the Configuration screen.

NOTE: Your configuration may be different from the guide if you need FTP & Telnet enabled. This is up to you if you want to use it.

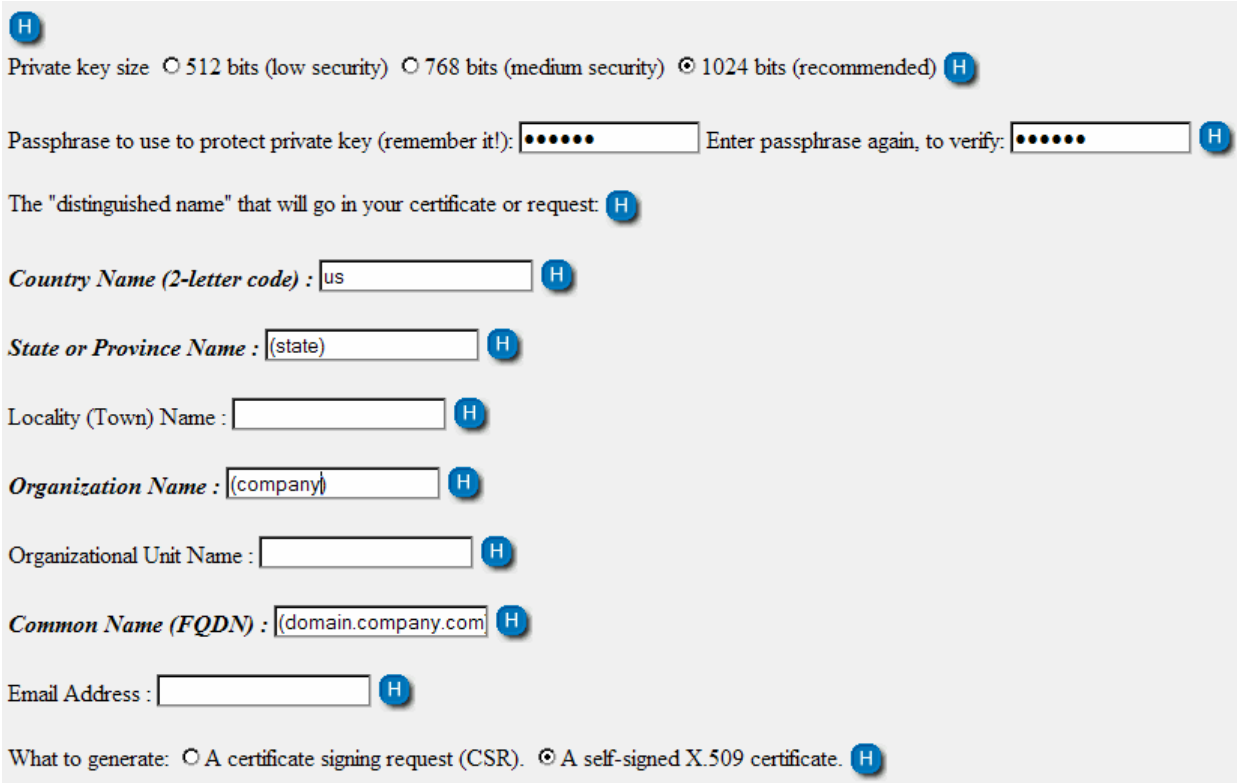


Under Security and Access Configuration click on **SSH (Secure Shell)**, make sure that SSH is enabled. If you click on **UP** it will take you back to the Configuration screen.
NOTE: This is important that this is turned on so that you can manage your NOKIA box via SSH.

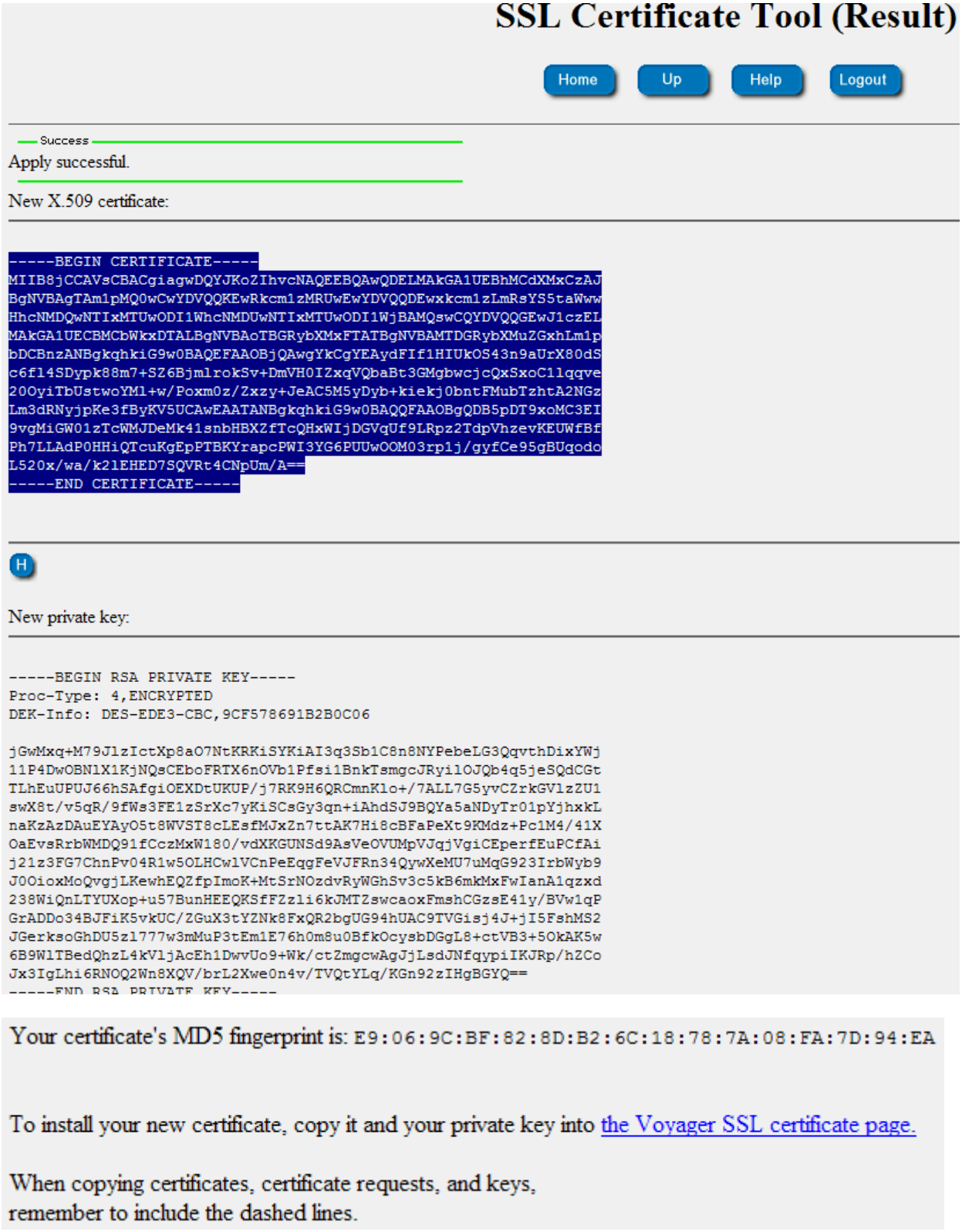


Under Security and Access Configuration click on **SSL Certificate Tool**, here is where you configure your SSL certificate.

After clicking on **SSL Certificate Tool**, you should see the screen shown below. Enter the same data shown below into the configuration for your certificate you are creating. The pass phrase can be whatever you choose. When


Private key size 512 bits (low security) 768 bits (medium security) 1024 bits (recommended)
Passphrase to use to protect private key (remember it!):
Enter passphrase again, to verify:
The "distinguished name" that will go in your certificate or request:
Country Name (2-letter code) : us
State or Province Name : (state)
Locality (Town) Name :
Organization Name : (company)
Organizational Unit Name :
Common Name (FQDN) : (domain.company.com)
Email Address :
What to generate: A certificate signing request (CSR). A self-signed X.509 certificate.

After all of the information has been added click on **Apply**. This will bring up a screen that has a certificate and a private key in it; you need to copy the entire text that is listed. After highlighting the entire certificate right click and select “copy”. After you have copied the certificate scroll to the bottom of the screen and click **on the Voyager SSL certificate page** that is shown below.



SSL Certificate Tool (Result)

Home Up Help Logout

Success

Apply successful.

New X.509 certificate:

```
-----BEGIN CERTIFICATE-----
MIIB8jCCAVsCBACgiagwDQYJKoZIhvcNAQEEBQAwQDELMAkGA1UEBhMCdXMxCzAJ
BgNVBAgTAm1pMQ0wCwYDVQQKEwRkcm1zMRUwEwYDVQQDEwxkcm1zLmRsYS5taWww
HhcNMDQwNTIxMTUwODI1WhcNMDUwNTIxMTUwODI1WjBAMQswCQYDVQQGEwJ1czEL
MAkGA1UECBMCbWkxDTALBgNVBAoTBGRybXMxFTATBgNVBAMTDGRybXMuZGxhLm1p
bDCBnzANBgkqhkiG9w0BAQEFAAOBjQAwgYkCgYEAydFIf1HIUkOS43n9aUrX80dS
c6fl4SDypk88m7+SZ6BjmlrokSv+DmVH0IZxqVQbaBt3GMgbwcjcQxSxoC1lqqve
20OyiTbUstwoYMl+w/Poxm0z/Zxzy+JeAC5M5yDyb+kiekj0bntFMubTzhtA2NGz
Lm3dRNyjpKe3fByKV5UCAwEAATANBgkqhkiG9w0BAQQFAAOBgQDB5pDT9xoMC3EI
9vgMiGW01zTcWMJDeMk41snbHBXZfTcQHxWIjDGVqUf9LRpz2TdpVhzevKEUWfBf
Ph7LLAdP0HHiQTcuKgEpPTBKYrapcPWI3YG6PUUwOOM03rp1j/gyfCe95gBUqodo
L520x/wa/k2lEHED7SQVRt4CNpUm/A==
-----END CERTIFICATE-----
```

H

New private key:

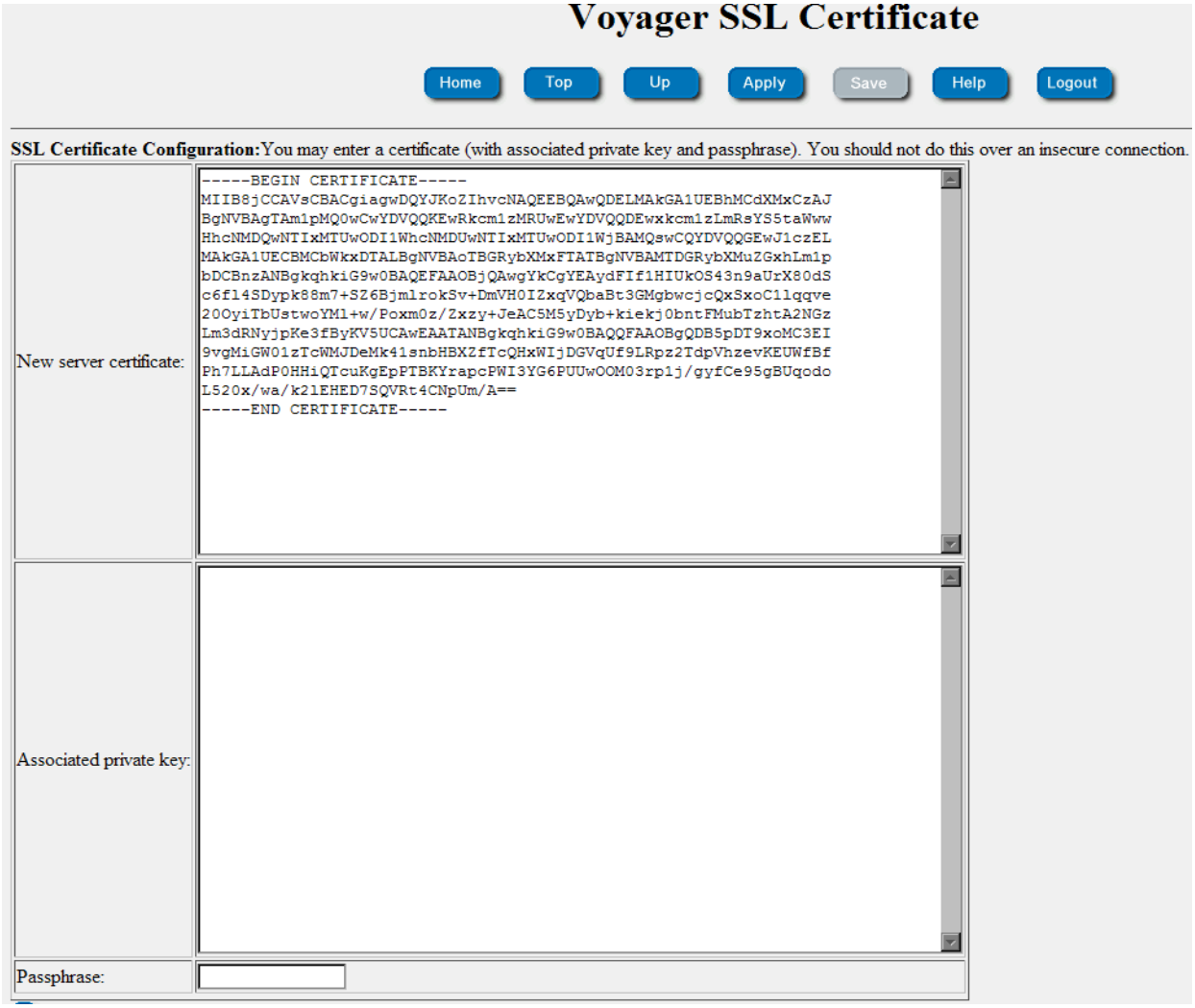
```
-----BEGIN RSA PRIVATE KEY-----
Proc-Type: 4,ENCRYPTED
DEK-Info: DES-EDE3-CBC,9CF578691B2B0C06

jGwMxq+M79JlzIctXp8aO7NtKRKiSYKiAI3q3Sb1C8n8NYPebeLG3QqvthDixYWj
11P4DwOBNlX1KjNQsCEboFRTX6nOVb1Pfsi1BnkTsmgcJRyilOJQb4q5jeSQdCGt
TLhEuUPUJ66hSAfgiOEXDtUKUP/j7RK9H6QRCmnKlo+/7ALL7G5yvCZrkGVlzZU1
swX8t/v5qR/9fWs3FE1zSrXc7yKiSCsGy3qn+iAhdSJ9BQYa5aNDyTr01pYjhxkL
naKzAzDAuEYAyO5t8WVST8cLEsfMJxZn7ttAK7Hi8cBFaPeXt9KMdz+Pc1M4/41X
OaEvsRrbWMDQ91fCczMxW180/vdXKGUNSd9AsVeOVUMpVJqjVgiCEperfEuPCfAi
j21z3FG7ChnPv04R1w5OLHCwlVCnPeEqgFeVJFRn34QywXeMU7uMqG923IrbWyb9
J0OioxMoQvgjLKewhEQZfpImoK+MtSrNOzdvRyWGhSv3c5kB6mkMxFwIanA1qzxd
238WiQnLTYUXop+u57BunHEEQKSfFZzli6kJMTZswcaoxFmshCGzsE41y/BVw1qP
GrADDo34BJFiK5vkUC/ZGuX3tYZNk8FxQR2bgUG94hUAC9TVGisj4J+jI5FshMS2
JGerksoGhDU5zl777w3mMuP3tEm1E76h0m8u0BfkOcysbDGgL8+ctVB3+5OkAK5w
6B9WlTBedQhzL4kVljAcEh1DwvUo9+Wk/ctZmgcwAgJjLsdJNfqypiIKJRp/hZCo
Jx3IgLhi6RNOQ2Wn8XQV/brL2Xwe0n4v/TVQtYLq/KGn92zIHgBGYQ==
-----END RSA PRIVATE KEY-----
```

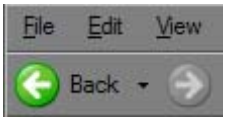
Your certificate's MD5 fingerprint is: `E9:06:9C:BF:82:8D:B2:6C:18:78:7A:08:FA:7D:94:EA`

To install your new certificate, copy it and your private key into the Voyager SSL certificate page.

When copying certificates, certificate requests, and keys,
remember to include the dashed lines.

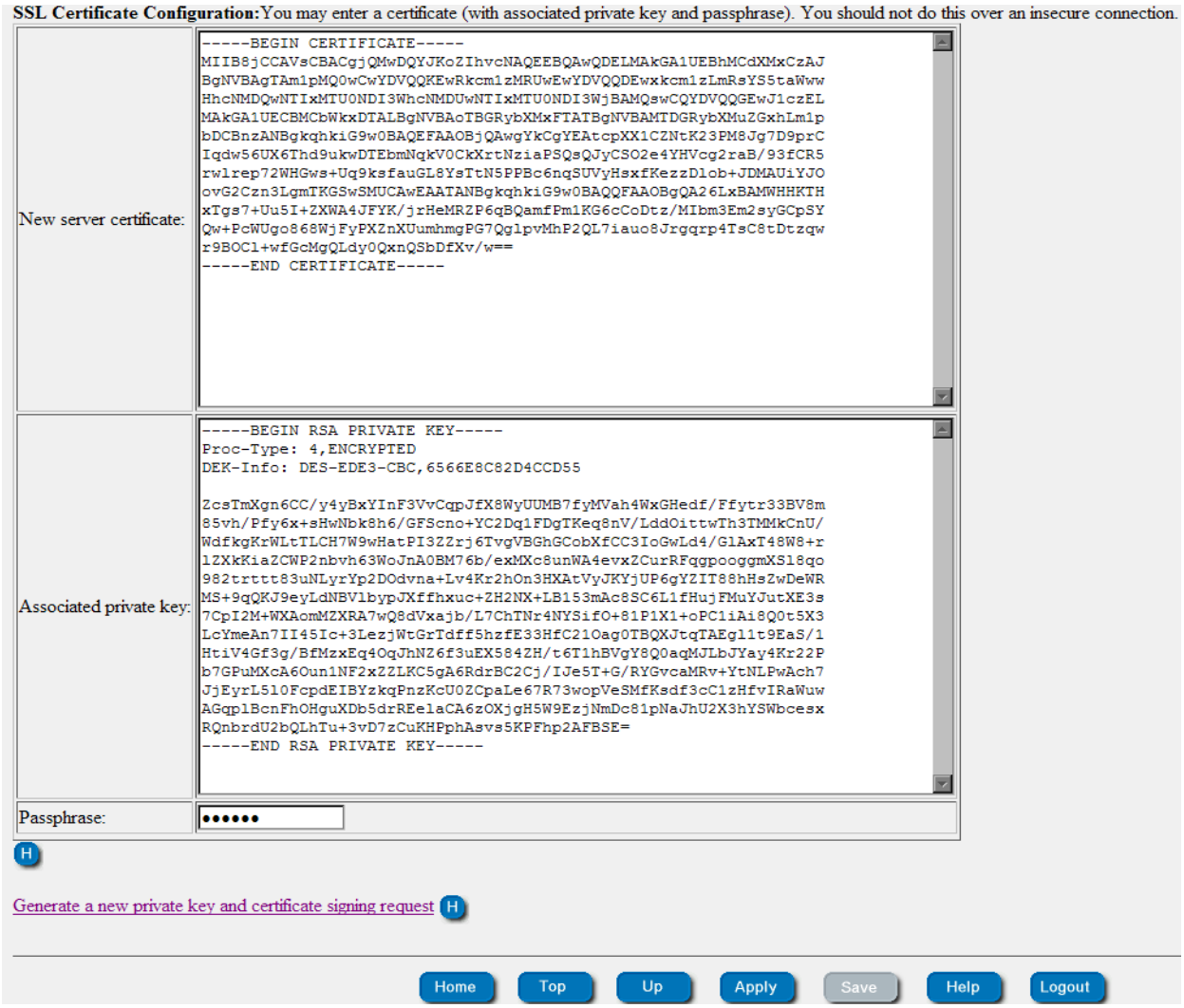


When the Voyager SSL Certificate page comes up, **Paste** the copied certificate into the box that is labeled “New server certificate”. Now click on the **BACK** button of the IE page that you are on, I have noticed that if you click on up rather then back your certificate will disappear. It is a lot easier to just click on back, this way you don’t get lost as to what you are doing.

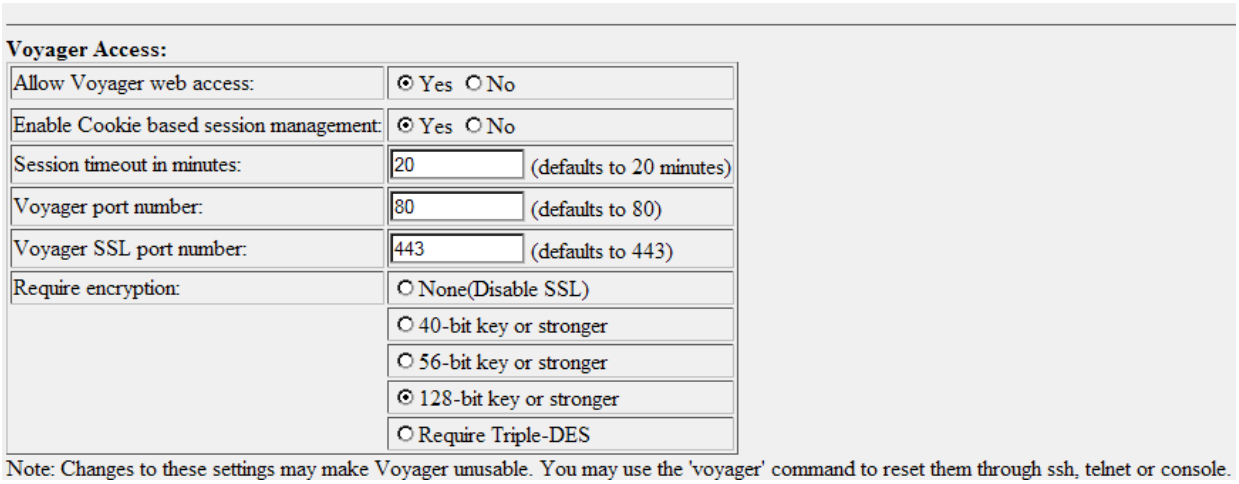


Now you should be back to the page where you can copy the “Private Key” this is the one below the Server Certificate. After you copy the key click on the green arrow that allows you to advance to the previous page in IE, Netscape or whatever you are using.

Now that you are back to the area shown below, paste the Private Key in the area that reads **Associated Private Key**. You will then need to type in the “Pass phrase” that you created earlier. After entering the pass phrase, click on **Apply** and the screen will show “Apply Successful” at the top of the page.



If you click on **UP** it will take you to the screen shown below. This is where you will choose the required encryption for the using SSL. Choose the radio button that reads **128-bit key or stronger**. After selecting the radio button click on **Apply and Save.**


Voyager Access:
Allow Voyager web access: Yes No
Enable Cookie based session management: Yes No
Session timeout in minutes: 20 (defaults to 20 minutes)
Voyager port number: 80 (defaults to 80)
Voyager SSL port number: 443 (defaults to 443)
Require encryption: None(Disable SSL)
40-bit key or stronger
56-bit key or stronger
128-bit key or stronger
Require Triple-DES
Note: Changes to these settings may make Voyager unusable. You may use the 'voyager' command to reset them through ssh, telnet or console.

You should still see that same screen shown above, if you click on **UP** you will get the error message "The page cannot be displayed". You are getting this error message because you need to change the URL to use HTTPS rather then HTTP. As soon as you put an "S" behind HTTP and hit enter you will be back to the Voyager configuration page.

You know need to create the “Default filter”, this is used to deny any access to the NOKIA device except for SSH or other connections. This all depends on how you create the default filter; I will be creating the default filter that only allows SSH connections to the NOKIA device. Shown below are the steps that need to be taken to apply the default filter.

NOTE: The default filter is really a default policy on the NOKIA device. A policy will be applied to the device when it is pushed via the management server.

```
fw-test[admin]# cd $FWDIR/lib
fw-test[admin]# cp defaultfilter.ipso $FWDIR/conf/defaultfilter.pf
fw-test[admin]# fw defaultgen
Generating default filter
defaultfilter:
Compiled OK.
fw-test[admin]# cd $FWDIR/state
fw-test[admin]# ls -ls
total 1
1 -rw-rw-r--  1 root  80  736 May 21 17:41 default.bin
fw-test[admin]# cp default.bin $FWDIR/boot
fw-test[admin]# cd $FWDIR/boot
fw-test[admin]# ls -ls
total 59
  1 -rw-r--r--  1 root  80    41 Sep 19  2002 boot.conf
  1 -rw-rw-r--  1 root  80   736 May 21 17:41 default.bin
 56 -rwxr-xr-x  1 root  80  57344 Sep 19  2002 fwboot
  1 drwxr-xr-x  2 root  80   512 May  6 21:33 modules
fw-test[admin]#
```

Now that the default filter is created you can move on to the second to last step of the configuration. All of the appropriate patches and hot fixes should be applied at this time. I will demonstrate one for you; it is best to use the directory **/var/tmp**.

NOTE: Make sure that your FTP server is running for this portion. You can get all of the current patches and hot fixes on Check Point’s website.

```
fw-test[admin]# cd /var/tmp
fw-test[admin]# ls -ls
total 2
1 -rw-rw-rw-  1 root  wheel  107 May  6 19:34 fetchout
0 -rw-r--r--  1 root  wheel    0 May 21 14:47 ipsopmddebug.txt
0 -rw-r--r--  1 root  wheel    0 May  6 22:10 ipsopmddebug.txt1
1 -rw-rw-rw-  1 root  wheel  438 May  6 19:35 newimageout
0 lrwxrwxrwt  1 root  wheel   42 May 21 15:44 present -> IPSO-3.7.1-BUILD010-04.05.2004-185427-1253
fw-test[admin]# ftp 10.0.0.2
Connected to 131.87.68.130.
220 3Com FTP Server Version 1.1
Name (131.87.68.130:admin):
331 User name ok, need password
Password:
230 User logged in
Remote system type is Windows/NT.
ftp> hash
Hash mark printing on (1024 bytes/hash mark).
ftp> bin
200 Type set to I.
ftp> dir
200 PORT command successful.
150 File status OK ; about to open data connection
D--------- 1 owner group        0 Apr 15 11:19 .
D--------- 1 owner group        0 Apr 15 11:19 ..
---------- 1 owner group  32330013 Oct 21 10:05 CP_FP3_IPSO.tgz
---------- 1 owner group  37908646 Apr 27 19:41 ipso_3_7_1_Build010.tgz
---------- 1 owner group    285169 Apr 16 18:52 OpenSSL_HF_mar_2004_fp3_hf2_ipso.tgz
```

---------- 1 owner group 21039771 Apr 28 14:10 SHF_HFA_325.ipso.tgz
#
226 Closing data connection
ftp> **get SHF_HFA_325.ipso.tgz**
local: SHF_HFA_325.ipso.tgz remote: SHF_HFA_325.ipso.tgz
200 PORT command successful.
150 File status OK ; about to open data connection
100% |**| 20546 KB   00:00 ETA
226 File transfer successful.
21039771 bytes received in 5.79 seconds (3.47 MB/s)
ftp> **bye**
221 Service closing control connection
fw-test[admin]# **pwd**
/var/tmp
fw-test[admin]# **gunzip SHF_HFA_325.ipso.tgz**
fw-test[admin]# **tar -xvf SHF_HFA_325.ipso.tar**
cpshared_HOTFIX_HFA_325_332553963_1
fw1_HOTFIX_HFA_325_332553950_1
fw-test[admin]# **./cpshared_HOTFIX_HFA_325_332553963_1**
Do you want to proceed with installation of Check Point SVN Foundation NG FP3 Support HFA 325 for Check Point SVN Foundation NG FP3 on this computer?
If you choose to proceed, installation will perform CPSTOP.
(y-yes, else no):**y**
SVN Foundation: cpd is not running
SVN Foundation: cpWatchDog is not running
SVN Foundation stopped

****
Check Point SVN Foundation NG FP3
Check Point SVN Foundation NG FP3 Support HFA 325 installation completed successfully.
****
fw-test[admin]# **./fw1_HOTFIX_HFA_325_332553950_1**
Do you want to proceed with installation of Check Point VPN-1/FireWall-1 NG FP3 Support HFA 325 for Check Point VPN-1 & FireWall-1 NG FP3 on this computer?
If you choose to proceed, installation will perform CPSTOP.
(y-yes, else no):**y**
SVN Foundation: cpd is not running
SVN Foundation: cpWatchDog is not running
SVN Foundation stopped
Launching post-hotfix utility

****
Check Point VPN-1 & FireWall-1 NG FP3
Check Point VPN-1/FireWall-1 NG FP3 Support HFA 325 installation completed successfully.
****
fw-test[admin]#

The very last step to configuring this firewall is to run a **cpconfig**. When you run a cpconfig you are setting up what type of Check Point product you wish to run. We are going to choose an “enforcement module” or firewall. The second part to this is setting your one time password for SIC (Secure Internal Communication). You are also able to put your license on at this time as well; we are going to put our license on later.

NOTE: Check Point gives you a 15 day trial license so you don’t have to apply the license right away.

---

fw-test[admin]# cpconfig

Welcome to Check Point Configuration Program
==========
Please read the following license agreement.
Hit 'ENTER' to continue...

This End-user License Agreement (the "Agreement") is an agreement between you (b
oth the individual installing the Product and any legal entity on whose behalf s
uch individual is acting) (hereinafter "You" or " Your") and Check Point Softwar
e Technologies Ltd. (hereinafter "Check Point").
TAKING ANY STEP TO SET-UP OR INSTALL THE PRODUCT CONSTITUTES YOUR ASSENT TO AND
ACCEPTANCE OF THIS END USER LICENSE AGREEMENT. WRITTEN APPROVAL IS NOT A PREREQU
ISITE TO THE VALIDITY OR ENFORCEABILITY OF THIS AGREEMENT AND NO SOLICITATION OF
 ANY SUCH WRITTEN APPROVAL BY OR ON BEHALF OF YOU SHALL BE CONSTRUED AS AN INFER
ENCE TO THE CONTRARY. IF YOU HAVE ORDERED THIS PRODUCT AND SUCH ORDER IS CONSID
ERED AN OFFER BY YOU, CHECK POINT'S ACCEPTANCE OF YOUR OFFER IS EXPRESSLY CONDIT
IONAL ON YOUR ASSENT TO THE TERMS OF THIS AGREEMENT, TO THE EXCLUSION OF ALL OT
HER TERMS. IF THESE TERMS ARE CONSIDERED AN OFFER BY CHECK POINT, YOUR ACCEPTAN
CE IS EXPRESSLY LIMITED TO THE TERMS OF THIS AGREEMENT. IF YOU DO NOT AGREE WIT
H ALL THE TERMS OF THIS AGREEMENT, YOU MUST RETURN THIS PRODUCT WITH THE ORIGINA
L PACKAGE AND THE PROOF OF PAYMENT TO THE PLACE YOU OBTAINED IT FOR A FULL REFUN
(Hit Space bar until end of license agreement)

Do you accept all the terms of this license agreement (y/n) ? **y**

Select installation type:
---

(1) Enforcement Module.
(2) Enterprise Management.
(3) Enterprise Management and Enforcement Module.
(4) Enterprise Log Server.
(5) Enforcement Module and Enterprise Log Server.

Enter your selection (1-5/a-abort) [1]: **1**
Would you like to install a Check Point clustering product (CPHA, CPLS or State Synchronization)? (y/n) [n] ? **n**
IP forwarding disabled
Hardening OS Security: IP forwarding will be disabled during boot.
Generating default filter
Default Filter installed
Hardening OS Security: Default Filter will be applied during boot.
This program will guide you through several steps where you
will define your Check Point products configuration.
At any later time, you can reconfigure these parameters by
running cpconfig

Configuring Licenses...
==========
Host Expiration Signature Features

Note: The recommended way of managing licenses is using SmartUpdate.
cpconfig can be used to manage local licenses only on this machine.

Do you want to add licenses (y/n) [y] ? **n**

Configuring Random Pool...
==========
You are now asked to perform a short random keystroke session.
The random data collected in this session will be used in
various cryptographic operations.

Please enter random text containing at least six different
characters. You will see the '*' symbol after keystrokes that
are too fast or too similar to preceding keystrokes. These

keystrokes will be ignored.

Please keep typing until you hear the beep and the bar is full.

[.....]

Thank you.

Configuring Secure Internal Communication...
==========
The Secure Internal Communication is used for authentication between
Check Point components

Trust State: Uninitialized
Enter Activation Key: **xxxxxxxxxx**
Again Activation Key: **xxxxxxxxxx**

The Secure Internal Communication was successfully initialized

initial_module:
Compiled OK.

Hardening OS Security: Initial policy will be applied
until the first policy is installed

In order to complete the installation
you must reboot the machine.

Do you want to reboot? (y/n) [y] ? **y**

After the reboot is completed you can log back in and type in the command **shutdown now**. This will shut the device down properly and you can then hit the power button in the past. If you don't shut it down like this you run the risk of putting the device into **Single User Mode**. You are all set to connect this device to your network and get the management server configured in order to apply a license and push a policy to this device.

About the Author

Brandon E Robrahn, CCSA, is a Firewall Administrator for a fast growing company that supports the Federal Government. His area of infosec expertise include intrusion detection, firewall administration, and antivirus. He has been providing support for the Federal Government for over 2 years, and has been in the IT field for over 4 years. Before providing support to the Federal Government, he was serving his country in the United States Army for 3 years. In his spare time he enjoys spending time with his family, and spending time outdoors.